

Oracle9i JDeveloper: Develop Applications with BC4J (4 Days)

Custom Training Institute

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Oracle9i JDeveloper: Develop Applications with BC4J (CTI 190)

This course teaches how to develop J2EE-compliant applications using Business Components for Java (BC4J). Students learn the benefits of using business components, how to build them using Oracle9i JDeveloper, how to customize business component applications, and how to create various client types. Students will also learn how to deploy applications to Oracle9iAS Containers for J2EE (OC4J).

Prerequisites: Experience developing business applications; basic knowledge of Java, SQL, and Oracle; familiarity with JDeveloper. Successful completion of course CTI 137, "Java Programming Using JDeveloper," and CTI 152, "Introduction to Oracle 9i with SQL," meets these requirements.

Minimum hardware requirements: (per machine): 256 MB RAM; 750 MB free hard disk space; Pentium or Mac G4. Internet access.

Minimum software requirements: JDeveloper 9.0.3 or later; Oracle9i Release Two or later. Windows 2000, Windows XP, Mac OS X, or Linux.

Microsoft PowerPoint on instructor's workstation for presentation purposes.

Module 1: Introduction

- Middle-Tier Design and Architecture
- Application Framework
- Middle-Tier Independence
- Object-Relational Mapping
- Reviewing Students' JDeveloper Knowledge

Module 2: Developing a Business

Components Application

- Using Database Connections
- Creating a New Project and a Business Components Application
- Editing Business Component Properties
- Testing a Business Application
- Using the Business Components Browser
- Mapping an Attribute to a Database Sequence
- Creating Default View Objects
- Applications Models

Module 3: Implementing Business Rules

- Role of Entity Objects in Business Components Framework
- Creating Entity Objects
- The .java and .xml Files
- Entity Attributes
- Defining Entity Associations
- Creating and Traversing Associations
- Creating Validation Rules
- Creating and Using Domains

Module 4: Handling Exceptions and Errors

- Middle-Tier Events and the Standard Java Event Model
- Publishing and Subscribing to Events with JDeveloper9i
- Handling Middle-Tier Errors
- Using the JBO Exception Classes
- Intercepting and Handling BC4J Exceptions

Module 5: Creating and Managing Database Objects

- Creating an Entity Without an Underlying Table
- Creating an Entity With the UML Class Modeler
- Forward Engineering Database Objects
- Using Transient Attributes
- Creating Entity Constraints
- Synchronizing Entity Definitions with Database Objects (Schema Evolution)

Module 6: Presenting Business Data

- Defining the BC4J Presentation Layer
- Using View Objects
- Creating and Customizing View Objects
- Adding Calculated Attributes
- Creating and Traversing View Links
- Synchronizing View Objects
- Exposed View Object Methods
- Formatting Data Types (Using Dates)

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continued**

Module 7: Leveraging Middle-Tier

Validation

- Entity-Level Validation
- Middle-Tier Validation
- Validating on the Middle Tier vs. the Client Tier
- Using Custom Properties (All Levels)
- Validation Order

Module 8: Creating Batch and XML Messaging Clients for a Business Components Application

- Defining a Batch Client
- Using Different Service Methods from a Batch Client
- Using XML in the Context of JDeveloper
- Defining XML Messaging Clients

Module 9: Handling Business Components Transactions

- Defining a BC4J Transaction
- How Application Module and Connection Pooling Increase Performance
- Using Different Transaction Methods
- Locking Modes

Module 10: Packaging Business Services and Data Models

- Overview of Application Modules
- Components of an Application Module
- Nesting Application Modules
- Creating and Exposing Service Methods
- Modeling Relationship Types (Double Master, Multiple Details)
- Renaming Views and Associations

Module 11: Extending and Substituting Business Components

- Customizing a BC4J Application
- Substituting Objects in an Application
- Adding Business Rules and Logic to an Existing Application

Module 12: Deploying Business Components Applications

- Introduction to EJBs
- Deployment Options for a BC4J Application
- Deploying a BC4J Application as an EJB
- Exporting Methods from View Objects and Application Modules
- Deploying an Application Module to Oracle9iAS Containers for J2EE
- Deploying an Application as a Web Application
- Using the Business Components Tester

Module 13: Creating JSP Clients

- JSP Architecture
- Datapages for BC4J Applications
- BC4J Data Tags
- Testing a JSP Application
- Using `releaseModes` in a JSP Client

Module 14: Creating JClient Applications

- What is JClient?
- What is the Role of JClient in a BC4J Application?
- JClient Architecture
- Creating a Simple JClient Form Using the JClient Form Wizard
- Adding Controls

Module 15: Best Practices: Tuning for Performance

- Application Module Pooling
- Connection Pooling
- Entity and View Object Caching